



# MATH 1350.932 Mathematics for Teachers I, Synchronous

Course Syllabus: Fall 2022

*“Northeast Texas Community College exists to provide personal, dynamic learning experiences empowering students to succeed.”*

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<b><u>Office Hours:</u></b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>		
	10:30 – 11:00 1:30 – 3:30	10:30 – 11:00 1:30 – 3:30	10:30 – 11:00 1:30 – 3:30	10:30 – 11:00 1:30 – 3:30		Professor checks email and TEAMS texts multiple times daily.

***This syllabus serves as the documentation for all course policies and requirements, assignments, and instructor/student responsibilities.***

*Information relative to the delivery of the content contained in this syllabus is subject to change. Should that happen, the student will be notified.*

**Course Description:** This course is intended to build or reinforce a foundation in fundamental mathematics concepts and skills. It includes the conceptual development of the following: sets, functions, numeration systems, number theory, and properties of the various number systems with an emphasis on problem solving and critical thinking. Three hours credit.

**Course Delivery Method:** This class is a once-a-week class on Wednesday from 4:30 – 7:20 p.m. This delivery method is called **Synchronous Learning**, which means that although you will be learning from a distance (at home), you will virtually attend a class session each week (on Zoom or Teams), at the same time as your instructor and classmates. If you cannot attend the class at that time, I will record the lesson and post it as a video in Blackboard for you to watch at your convenience. All work, such as homework, quizzes, exams, etc. will be online using MyMathLab.

**Prerequisite(s):** MATH 1314 with a grade of “C” or better

### **Student Learning Outcomes:**

- 1350.1 Explain and model the arithmetic operations for whole numbers and integers.
- 1350.2 Explain and model computations with fractions, decimals, ratios, and percentages.
- 1350.3 Describe and demonstrate how factors, multiples, and prime numbers are used to solve problems.
- 1350.4 Apply problem-solving skills to numerical applications.
- 1350.5 Represent and describe relationships among sets using the appropriate mathematical terminology

and notation.

1350.6 Compare and contrast structures of numeration systems.

### **Program Student Learning Outcomes:**

#### Critical Thinking Skills

CT.1 Students will demonstrate the ability to 1) analyze complex issues, 2) synthesize information, and 3) evaluate the logic, validity, and relevance of data.

#### Communication Skills

CS.1 Students will effectively develop, interpret and express ideas through written communication.

#### Empirical and Quantitative Skills

EQS.1 Students will manipulate numerical data or observable facts by organizing and converting relevant information into mathematical or empirical form

EQS.2 Students will analyze numerical data or observable facts by processing information with correct calculations, explicit notations, and appropriate technology.

EQS.3 Students will draw informed conclusions from numerical data or observable facts that are accurate, complete, and relevant to the investigation.

### **Evaluations/Grading Policy:**

Two exams will be given, a midterm and a final, which will count for 50% of your total grade (worth 25% each). If an exam is missed or failed, the highest possible make-up grade is a 70 (with instructor notification prior to the exam missed). The final exam must be proctored. We will discuss your proctoring options in our Wednesday evening class.

The average of a series of homework assignments will be worth 25% of the total grade (all homework is on MyMathLab). All homework due dates are posted on MyMathLab. Homework is due on the due date...no exceptions.

Quizzes (over each chapter) will count for 10% of your overall average.

Two online projects will count for 15% of your grade (see below for explanation of both).

### **Tests/Exams:**

Midterm Exam	25%
Final Exam	25%
Online Assignments (MyMathLab)	25%
Quizzes (MyMathLab)	10%
Project #1 (explained below)	5%
Project #2 (explained below)	10%

TOTAL ----- 100%

"A"	90%
"B"	80%
"C"	70%
"D"	60%
"F"	Below 60%

### **Project #1 Description (Due date given in class):**

Find a children's book that teaches a math lesson. For instance, "The Greedy Triangle" by Marilyn Burns is a cute story about shapes and angles. I created an activity with play-doh to help students apply what the book teaches (they make different shapes out of the play-doh). You will need to do something similar: find a children's book that you like and create a "hands-on" activity to go along with it. You will then need to write this up (step-by-step instructions on your hands-on activity that goes along with your book) and post it in the Discussion Board on Blackboard in a few of weeks, so please start looking now.

NOTE: Your best bet is to find a teacher (can be any grade level) and ask her to recommend a book and activity...she probably has one you can borrow. You can also google this online...I have found many good activities there. Just be sure to give the author credit on the Discussion Board.

\*\*Be sure to look at the Children's BOOK LIST that I put on Blackboard (on the Homepage underneath my picture). There are some WONDERFUL books that teach a math lesson listed there. I have also put a couple of examples on there for you to look at to get some ideas.

### **Project #2 Description (Due Date given in class):**

a complete lesson plan (post on the Discussion Board), and then video yourself teaching that math lesson. You will be posting the video on Blackboard also. I will send more details out about that later, BUT for now you need to start looking for a complete lesson plan either online or from a school teacher (preferably). This lesson plan should be geared toward the age group you want to one day teach, and it should of course be a math lesson. Some examples could be a lesson on telling time, shapes, fractions, decimals, addition, subtraction, multiplication, division, etc. It can be any math topic...but you must have a complete lesson plan for it. This should be longer than the book project. It needs to actually "teach" a lesson to the students. And, you must have a hands-on activities to go along with your lesson. Kids need to use their tactile/kinesthetic senses when learning, so please make sure your lesson has something for them to "manipulate" during the lesson. Examples of manipulatives are blocks, shapes, dice, toothpicks, bingo chips, rulers, hands on a clock, paper money, coins, etc. (anything they can touch and learn from). Note: no easy counting books...the book needs to be a higher level than that

You will need to video yourself teaching this lesson (talk to the camera as if you were talking to children – actually teach the lesson and demonstrate concepts with manipulatives). The video should be 8 – 10 minutes in length. Below you will find instructions on how to upload the video on Blackboard.

### **Steps to complete the Project #2 (video) assignment:**

1. Each student should create an account at <http://www.youtube.com/>.
2. Video the presentation using a webcam or video recorder (using a video recorder will require the student to load the video on their computer).
3. Go to the YouTube account and select UPLOAD VIDEO.
4. Once the video is uploaded from the computer to YouTube, there will be a link that YouTube generates for the video.
5. Copy and paste this link into the Discussion Forum that was created for the assignment in Blackboard.
6. Once it is pasted, all students should be able to click on the link and watch the video.

Before you post your video, please enter the following information for your lesson plan on the Discussion Board in Blackboard:

- 1) Your name
- 2) Title of your lesson
- 3) Objective of your lesson (what it will teach)
- 4) Materials needed for your lesson (anything you or students will use during the lesson)
- 5) Procedure of lesson (list these in steps - list how you would go about teaching the lesson); be as detailed as possible here (leave directions good enough for a substitute teacher to know how to teach your lesson)
- 6) Be sure to list your dependent practice for the lesson - what you will have students do WITH your help or in groups/partners
- 7) List the independent practice - what students will do ALONE to demonstrate that they've learned the lesson
- 8) Closure - how will you close (summarize) your lesson with your students

**Required Instructional Materials:** Long, DeTemple, Millman (2015). Mathematical Reasoning for Elementary Teachers, 7th Edition.

**Publisher:** Pearson, Boston, MA

**ISBN Number:**

[978-0-321-91474-3 LONG/MATHEMATICAL REASONING BINDER TEXT W/MYMATHLAB](#)

Both the loose-leaf textbook and the MyMathLab code will work for BOTH 1350 & 1351. You only have to purchase them once.

**Optional Instructional Materials:** None

**Minimum Technology Requirements:** Students should have a computer at home that is Internet accessible. It is recommended that students have a graphing calculator. The TI-84 is preferred, but other models may be approved by the instructor. You will be using this calculator for both courses.

**Required Computer Literacy Skills:** Students should have the ability to navigate through a website, use a chat room, post remarks to a discussion board, and email. They must also be able to navigate Blackboard to access posted materials and MyMathLab assignments.

### **Course Structure and Overview:**

This is an 8 week synchronous course where students are required to access graded activities on MyMathLab via the Blackboard Learning Management System. The class will meet virtually once a week, on Wednesdays from 4:30 – 7:20 on TEAMS. Students are required to complete online homework in addition to chapter quizzes, and over the course of the semester, two projects, a midterm exam and a final exam. It is very important students keep up with course materials and assignments since this is a very fast-paced, college-level course. Students are expected to watch posted instructional videos, read the course textbook, and complete online assignments located in MyMathLab, by the due dates.

### **Course Outline:**

All problems assigned to each section are located in the Homework tab in MyMathLab. Dates for each section are located in your MyMathLab Calendar at the end of this syllabus.

- 1.1 An Introduction to Problem Solving
- 1.2 Polya's Problem-Solving Principles
- 1.3 More Problem-Solving Strategies
- 1.4 Algebra as a Problem-Solving Strategy

1.5 Additional Problem-Solving Strategies

1.6 Reasoning Mathematically

### Chapter 1 QUIZ

2.1 Sets and Operations on Sets

2.2 Sets, Counting, and the Whole Numbers

2.3 Addition and Subtraction of Whole Numbers

2.4 Multiplication and Division of Whole Numbers

### Chapter 2 QUIZ

3.2 Algorithms for Adding and Subtracting Whole Numbers

3.3 Algorithms for Multiplication and Division of Whole Numbers

3.4 Mental Arithmetic and Estimation

### Chapter 3 QUIZ

## **MIDTERM EXAM - Chapters 1, 2, & 3**

4.1 Divisibility of Natural Numbers

4.2 Tests for Divisibility

4.3 Greatest Common Divisors and Least Common Multiples

### Chapter 4 QUIZ

5.1 Representation of Integers

5.2 Addition and Subtraction of Integers

5.3 Multiplication and Division of Integers

### Chapter 5 QUIZ

6.1 The Basic Concepts of Fractions and Rational Numbers

6.2 Addition and Subtraction of Fractions

6.3 Multiplication and Division of Fractions

### Chapter 6 QUIZ

7.1 Decimals and Real Numbers

7.2 Computations with Decimals

7.3 Proportional Reasoning

7.4 Percent

### Chapter 7 QUIZ

## **FINAL EXAM (Over chapters 4, 5, 6, & 7)**

### **Communications:**

Emails will be responded to within 24 hours. Students are expected to abide by Netiquette rules when communicating online. See this link for details:

<https://coursedesign.colostate.edu/obj/corerulesnet.html>.

The college's official means of communication is via your campus email address. Your instructor will use your campus email, TEAMS, and Blackboard to communicate with you (mainly **TEAMS texting**). You need to check these often throughout the week in case your instructor sends out new information. Also, make sure you keep your campus email cleaned out and below the limit so you can receive important messages.

### **Institutional/Course Policy:**

Since this is an online class, students must be self-motivated to keep up with the due dates, turn in assignments ON TIME, and take Exams as scheduled. Students need to check their email accounts daily AND log in daily to MyMathLab to make sure they receive all communications from the professor.

No late work will be accepted without prior approval by the instructor. It is the student's responsibility to check Blackboard and their NTCC email account for important information/announcements regarding the course. Students should be working on course material via Blackboard and MyMathLab every day. Do not wait until the last minute to complete and submit assignments in case of technology issues.

### **Eagle Assist**

At Northeast Texas Community College, we understand that students often need support that extends beyond the classroom. "Eagle Assist" is the place to start when looking for that type of assistance. Our support system is here to help you succeed in both your academic and personal growth. [www.ntcc.edu/eagleassist](http://www.ntcc.edu/eagleassist)

### **Services provided:**

- [Mental Health Counseling](#)
- [Classroom Accommodations](#)
- [NTCC Care Center Food Pantry](#)
- [NTCC Care Center Hygiene Closet](#)
- [NTCC Care Center Cook Nook](#)
- [Financial Literacy](#)
- [Child Care Assistance](#)
- [Emergency Aid](#)

Can't find what you are looking for? Send us a message at [eagleassist@ntcc.edu](mailto:eagleassist@ntcc.edu)

[Mental Health Counseling Services](#) are available to all NTCC students.

- Visit the following page to get your account activated:

[www.thevirtualcaregroup.com/ntcc](http://www.thevirtualcaregroup.com/ntcc)

\*Dual credit students please email [jstewart@ntcc.edu](mailto:jstewart@ntcc.edu) if interested.

### **Alternate Operations During Campus Closure and/or Alternate Course Delivery Requirements**

In the event of an emergency or announced campus closure due to a natural disaster or pandemic, it may be necessary for Northeast Texas Community College to move to altered operations. During this time, Northeast Texas Community College may opt to continue delivery of instruction through methods that include, but are not limited to, online through the Blackboard Learning Management System, online conferencing, email messaging, and/or an alternate schedule. It is the responsibility of the student to monitor NTCC's website (<http://www.ntcc.edu/>) for instructions about continuing courses remotely, Blackboard for each class for course-specific communication, and NTCC email for important general information.

Additionally, there may be instances where a course may not be able to be continued in the same delivery format as it originates (face-to-face, fully online, live remote, or hybrid). Should this be the case, every effort will be made to continue instruction in an alternative delivery format. Students will be informed of any changes of this nature through email messaging and/or the Blackboard course site.

### **NTCC Academic Honesty/Ethics Statement:**

NTCC upholds the highest standards of academic integrity. The college expects all students to engage in their academic pursuits in an honest manner that is beyond reproach using their intellect and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. Academic dishonesty

such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action. This course will follow the NTCC Academic Honesty and Academic Ethics policies stated in the Student Handbook. Refer to the student handbook for more information on these subjects.

**ADA Statement:**

It is the policy of NTCC to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student’s responsibility to request accommodations. An appointment can be made with the Academic Advisor/Coordinator of Special Populations located in Student Services and can be reached at 903-434-8264. For more information and to obtain a copy of the Request for Accommodations, please refer to the special populations page on the NTCC website.

**Family Educational Rights and Privacy Act (FERPA):**

The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children’s educational records. These rights transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered “eligible students.” In essence, a parent has no legal right to obtain information concerning the child’s college records without the written consent of the student. In compliance with FERPA, information classified as “directory information” may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student’s name, permanent address and/or local address, telephone listing, dates of attendance, most recent previous education institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.

**Tentative Course Timeline (\*note\* instructor reserves the right to make adjustments to this timeline at any point in the term):**

	<u>Assignment Name:</u>	<u>Due Date:</u>
	ORIENTATION	Week 1
	CHAPTER 1 HOMEWORK	Week 1
	CHAPTER 2 HOMEWORK	Week 2
	CHAPTER 3 HOMEWORK	Week 3
	REVIEW FOR MIDTERM EXAM	Week 4
	*** MIDTERM EXAM (chapters 1, 2, & 3)	Week 4

		CHAPTER 4 HOMEWORK	Week 5	
		CHAPTER 5 HOMEWORK	Week 5	
		CHAPTER 6 HOMEWORK	Week 6	
		CHAPTER 7 HOMEWORK	Week 7	
		REVIEW for EXAM #3 (Chapters 6 & 7)	Week 8	
	***	<b>FINAL EXAM (Chapters 4, 5, 6 &amp; 7)</b>	<b>Week 8</b>	